

AMENDMENTS TO THE CLAIMS

1-6. (Canceled)

7. (Previously Presented): A method of forming a polycrystalline silicon layer, comprising:
forming an amorphous silicon layer on a substrate;
melting said amorphous silicon layer using a laser beam so as to form a polycrystalline silicon layer; and
re-melting only an upper portion of said polycrystalline silicon layer using a laser beam so as to re-crystallize said upper portion,
wherein at least some of said re-melting of said upper portion of said polycrystalline silicon layer is performed as said amorphous silicon layer is melted.

8. (Previously Presented): The method of forming a polycrystalline silicon layer according to claim 7, wherein said re-melting is performed by passing said laser beam through a mask having a low transparency region.

9. (Previously Presented): The method of forming a polycrystalline silicon layer according to claim 8, wherein said low transparency region includes a stripe shape.

10. (Previously Presented): The method of forming a polycrystalline silicon layer according to claim 7, wherein said mask further includes a high transparency region.

11. (Previously Presented): The method of claim 7, further including moving the substrate relative to a laser beam.

12. (Previously Presented): The method of claim 7, further including dehydrogenating said amorphous silicon layer before melting.

13-17. (Canceled)

18. (Previously Presented): A method of forming a polycrystalline silicon layer, comprising:
forming an amorphous silicon layer on a substrate;

melting the amorphous silicon layer using a laser beam thereby forming the polycrystalline silicon layer using a mask, wherein the mask has a completely melting region and a partially melting region; and

melting only an upper portion of the polycrystalline silicon layer using the laser beam with the mask thereby recrystallizing the upper portion of the polycrystalline silicon layer,

wherein at least some of the melting of the upper portion of the polycrystalline silicon layer is performed as the amorphous silicon layer is melted, and the completely melting region of the mask pattern is made of a material having a high light transmittance, and the partially melting region of the mask pattern is made of a material having a low light transmittance.

19. (Previously Presented): A method of forming a TFT-LCD device having a polycrystalline silicon layer, comprising:

preparing a substrate having an amorphous silicon layer and a mask having a pattern of a completely melting region and a partially melting region;

irradiating a laser beam through the completely melting region of the mask onto the amorphous silicon layer so as to form a polycrystalline silicon layer; and

then, irradiating a laser beam through the partially melting region of the mask onto the polycrystalline silicon layer so as to re-crystallize the polycrystalline silicon,

wherein the completely melting region of the mask pattern includes a material having a high light transmittance, and the partially melting region of the mask pattern includes a material having a low light transmittance.

20. (New): The method of claim 19, wherein the completely melting region and the partially melting region have stripe shapes.

21. (New): The method of claim 20, wherein the completely melting region and the partially melting region are positioned in series.

22. (New): The method of claim 19, further including moving the substrate relative to the laser beam.

23. (New): The method of claim 19, further including dehydrogenating the amorphous silicon layer before melting.